each B is a linking group selected from the group consisting of an amino acid, gly-gly, (α, ε-N)-Lys, and Pro-Pro-Xaa-Pro-Xaa-Pro (SEQ ID NO:77);

Th comprise an amino acid sequence that constitutes a helper T cell epitope, selected from the group consisting of SEQ ID NOs: 1-64 and an immune enhancing analog thereof;

(N-terminal fragment of $A\beta_{1-42}$ peptide) is 10 to about 28 amino acid residues and wherein each fragment comprises EFRH of the $A\beta_{1-42}$ peptide and immunologically functional analog thereof;

B2

X is an α-COOH or α-$CONH_2$ of an amino acid ;

n is from 0 to about 10;
m is from 1 to about 4; and
o is from 0 to about 10.

A marked up version of the amendment is attached as the Appendix.

Remarks

The specification and claim 12 have been amended to correctly identify the linker sequence Pro-Pro-Xaa-Pro-Xaa-Pro as SEQ ID NO:77 . This is supported by the specification at page 19-20 which shows that this linker sequence should be numbered as SEQ ID NO:77. No new matter is introduced hereby.

The Sequence Listing is also amended accordingly. Enclosed herewith is a Sequence Listing and the disc copy thereof.

Response

The Examiner has required a species election to facilitate searching. It is also the contention of the Examiner that each fragment of the $A\beta_{1-42}$ peptide is patentably distinct. The Examiner requires the election of a species that comprise:

1. a T-helper epitope from the group consisting of SEQ ID NO:1-64;

2. a fragment of A_{1-42} peptide from the group consisting of SEQ ID NO:65-69;

3. a linker from the group consisting of:

   a) an amino acid;

   b) Gly-Gly;

   c) (, -N)-Lys;

   d) SEQ ID NO:77.

Applicant elects the following species without prejudice:

1. T-helper epitope - SEQ ID NO: 51,

2. fragment of A_{1-42} peptide - SEQ ID NO:67, and

3. linker - (, -N)-Lys.

The claims that read on the species elected are claims 1-2, 4-10, 12, 14-22, 24-32, 34-42, 44-62, 64-72, 74-80. SEQ ID NO:73 is the claimed species.

Applicant wish to point out that this is a species election and not a restriction requirement. Therefore, when the elected species is found to be allowable, then the Examiner is required to proceed to examine the generic and subgeneric claims and the remaining species in this application.

Applicant's attorney thank the Examiner for the courtesy extended by the telephone call to discuss the restriction requirement.

Respectfully submitted,

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APPENDIX

Marked up Version of Amendment

In the Specification, Page 18-19

[0043] Preferably, the N terminal fragment of the $A\beta_{1-42}$ peptide is selected from the group consisting of SEQ ID NOS: 66-69 and an immunologically effective analog thereof. The Th peptide is covalently attached to either the N- or C-terminus of the target N-terminal fragment of $A\beta_{1-42}$ peptide optionally with a spacer (e.g., Gly-Gly, ε-N Lys).

The peptide immunogen of this invention is represented by one of the following formula:

$(A)_n$-(N-terminal fragment of $A\beta_{1-42}$ peptide)-$(B)_o$-$(Th)_m$-X;or

$(A)_n$-$(Th)_m$-$(B)_o$-(N-terminal fragment of $A\beta_{1-42}$ peptide)-X;

wherein

each A is independently an amino acid;

each B is a linking group selected from the group consisting of an amino acid, gly-gly, (α, ε-N)lys, Pro-Pro-Xaa-Pro-Xaa-Pro (SEQ ID NO:[73] 77);

Each Th comprise an amino acid sequence that constitutes a helper T cell epitope, or an immune enhancing analog or segment thereof;

(N-terminal fragment of $A\beta_{1-42}$ peptide) is a synthetic peptide B cell target site antigen and is a fragment of about 10 to about 28 amino acid residues wherein each fragment comprises EFRH of the $A\beta_{1-42}$ peptide or an immunologically functional analog thereof;

X is an α-COOH or α-$CONH_2$ of an amino acid ;

n is from 0 to about 10;
m is from 1 to about 4; and
o is from 0 to about 10.

In the Claims

12. The peptide immunogen represented by one of the following formulae:

$(A)_n$-(N-terminal fragment of $A\beta_{1-42}$ peptide)-$(B)_o$-$(Th)_m$-X;or

$(A)_n$-$(Th)_m$-$(B)_o$-(N-terminal fragment of $A\beta_{1-42}$ peptide)-X;

wherein

each A is independently an amino acid;

each B is a linking group selected from the group consisting of an amino acid, gly-gly, (α, ε-N)-Lys, and Pro-Pro-Xaa-Pro-Xaa-Pro (SEQ ID NO:[73] 77);

Th comprise an amino acid sequence that constitutes a helper T cell epitope, selected from the group consisting of SEQ ID NOs: 1-64 and an immune enhancing analog thereof;

(N-terminal fragment of $A\beta_{1-42}$ peptide) is 10 to about 28 amino acid residues and wherein each fragment comprises EFRH of the $A\beta_{1-42}$ peptide and immunologically functional analog thereof;

X is an α-COOH or α-$CONH_2$ of an amino acid ;

n is from 0 to about 10;
m is from 1 to about 4; and
o is from 0 to about 10.